

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Jarmo MAKINEN et al.

Application No.: 09/909,039

Filed: July 19, 2001

Confirmation No.: 8466

Art Unit: 2617

Examiner: Willie J. Daniel, Jr.

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For: CONTROL OF TRANSMISSION POWER IN A RADIO SYSTEM

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

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October 23, 2008

Sir:

In accordance with the Pre-Appeal Brief Conference Pilot Program guidelines set forth in the July 12, 2005 Official Gazette Notice, Applicants hereby submit this Pre-Appeal Brief Request for Review of the final rejections of claims 12-30 and 33-55 in the above identified application. Claims 12-30 and 33-55 were finally rejected in the Office Action dated July 24, 2008. Applicants filed a Response to the Final Office Action on August 29, 2008, and the Office issued an Advisory Action dated September 22, 2008 maintaining the final rejections of claims 12-30 and 33-55. Applicants hereby appeal these rejections and submit this Pre-Appeal Brief Request for Review because the rejections constitute clear error.

Claims 12-17, 19, 24, 27-30, 33-34, 36-38 and 41-55 were rejected under 35 U.S.C. §102(a) as being anticipated by Vembu (U.S. Patent No. 6,259,928). This rejection is traversed for containing clear errors.

Initially, Applicants note that Vembu does not disclose a "pseudo error" anywhere in its disclosure. Furthermore claim 12, for example, explicitly defines a "pseudo error" by reciting that "a pseudo error is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur." As will be discussed below, Vembu does not disclose a "pseudo error" and certainly not using a "pseudo error" to control transmission power, as recited, in part, in independent claim 12, and similarly in independent claims 24, 27-30, 33-38, 44, 48 and 52.

The Response to Arguments section of the Office Action dated July 24, 2008 relied on columns 5-8 and 10 of Vembu as allegedly disclosing the subject matter of independent claims 12, 24, 27-30, 33-38, 44, 48 and 52. Applicants disagree that those portions of any other portions of Vembu disclose all of the subject matter of the claims. In addition, Applicants submit that "pseudo error" being regarded as inherent is improper (see page 4, lines 10-14 of the Office Action). Monitoring a pseudo error occurrence is not at all inherent to those having ordinary skill in art.

As noted above, a pseudo error occurs when a right bit or symbol decision is made but the margin that defines the right bit or symbol decision was smaller than a limit value. None of the subject matter disclosed in columns 5-8 and 10 of Vembu disclose an type or pseudo error or

any inherent interpretation of a pseudo error, as recited in the claims. Below is a discussion regarding the exact portions of columns 5-8 and 10 (considered pertinent by the Office Action) and reasons why none of those portions of Vembu disclose the subject matter recited in the claims.

Column 5, line 65 through column 6, line 2 discloses “Conversely, when SNR 208 rises above threshold 204, power is incrementally decreased. Power adjustments are made using commands or control and operation techniques known in the art.”

As can be seen from the above-noted portion of columns 5 and 6, a SNR is measured against a predefined threshold 204, and power is incrementally decreased if the SNR rises above the predefined threshold. This method of power decreasing does not represent any type of error detection. In addition, there is no disclosure that an error detection is performed that could be interpreted as being comparable to a particular type of “pseudo error” detection that is different from an actual error detection.

Pages 19 and 20 of the Office Action refer to column 7, lines 4-16, which discloses “If SNR 208 of the received signal is above threshold 204, the power is adjusted down and the operation returns to step 304 where receiver 108 continues to receive the transmitted signal. This is illustrated by step 310 and flow line 362. If SNR 208 is at threshold 204 and, therefore, no adjustment is necessary, the operation returns to step 304 as illustrated by flow line 364. In one embodiment, threshold 204 is not implemented as a single value, but instead encompasses an acceptable range of SNR values. If, on the other hand, SNR 208 is below threshold, operation of the invention proceeds to a step 312. In step 312, receiver 112 determines whether or not the degradation in SNR 208 is greater than nominal. In other words, receiver 112 determines whether or not SNR 208 is more than an acceptable amount below threshold 204...”

As can be seen from the above-noted portion of column 7, a SNR is again described as being measured against a predefined threshold 204, and power is incrementally decreased if the SNR rises above the predefined threshold. In this example, the threshold 204 is described as being within a range of values as opposed to one particular value. Also, a causal analysis is performed to determine the amount of actual degradation in the SNR 208, which is then compared to what would be considered an acceptable amount of degradation. These two analyses of the SNR do not disclose a pseudo error which is explicitly defined as “an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur.” Again, no discussion is made as to a particular type of “pseudo error” detection that is different from an actual error detection.

Pages 19 and 20 of the Office Action refer to column 8, lines 5-10 which discloses “In the embodiments described above, receiver 112 is described determining whether or not the system is at, above or below threshold and whether the system is operating nominally. In this embodiment, receiver 112 (112a, 112b) sends a command to transmitter 108 (108b, 108a) instructing transmitter 108 to change modes when appropriate.” In this example of column 8, a determination is made as to whether the system is at, below or above a threshold value, and whether it is operating “nominally”, and, if necessary, the transmitter 108 is instructed to change modes. Yet further, no discussion is made as to a particular type of “pseudo error” detection that is different from an actual error detection.

Pages 19 and 20 of the Office Action further refer to column 10, lines 54-59 which discloses “Because it is likely that the condition of SNR 208 being below threshold 204 resulted in the unacceptably high error rate (determined in step 408 above), threshold 204 is not increased. As such, the system continues to operate as normal using the power control mode to control the power in step 412.” In this example of column 10, a determination is made that the SNR 208 is below a threshold 204 which resulted in an unacceptably high error rate.

Furthermore, a decision is made not to increase threshold 204, and the system will operate as “normal”, and the power control mode is used to control the power level. Yet further still, no discussion is made as to a particular type of “pseudo error” detection that is different from an actual error detection.

As can be seen from the above-noted portions of the disclosure of Vembu, power is controlled on the basis of the SNR and error rate measurements. Column 10, lines 54-59 of Vembu, for example, refers to controlling transmission power on the basis of frame error rate. Similarly, column 10, lines 14 and 15 of Vembu refers to controlling power on the basis of bit error rate. The power control methods of Vembu are directed to the type of prior art that the pseudo error techniques of the present application are aimed at surpassing.

A pseudo error is described on page 3 of the present application as a type of error that has not yet occurred. In contrast to a pseudo error, the teachings of Vembu which are directed to SNR, bit error rate and frame error rate all rely on errors which have already occurred. The techniques used to control the power level in Vembu do not address pseudo error monitoring (i.e., monitoring of errors that have not yet occurred) of any kind.

The Office Action stated that “a pseudo error [is] (inherent).” Applicants disagree that a pseudo error is inherent. The fact that Vembu relies on actual measurements of SNR or error rates of signals received to control power levels clearly shows that Vembu cannot control power (either increase or decrease power) based on a “pseudo error.” In referring to a pseudo error as inherent, the Office Action has alleged that the following description of a “pseudo error” is inherent, as claim 12 recites a pseudo error “as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur.” Applicants submit that the above noted portion of claim 12, which describes the pseudo error, is not well known to one skilled in the art and cannot be regarded as “inherent” without further evidence.

Furthermore, the claims explicitly recite a definition of what a “pseudo error” actually is and how it is part of the process for setting the transmission power. The clear definition of “pseudo error” is recited in claim 12 as “a pseudo error is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur.” The clearly defined pseudo error cannot be ignored or rendered inherent without each of the portions of the above-noted definition being addressed in their entirety. The Office Action’s attempt to ignore the accurately defined elements of the “pseudo error” by labeling them inherent constitutes clear error.

Therefore, the Office Action has failed to disclose a “pseudo error” or establish a “pseudo error” as inherent, and by relying on the teachings of Vembu, has further failed to anticipate the subject matter recited in independent claim 12, and similarly independent claims 12, 24, 27-30, 33, 34, 36-38, 44, 48 and 52. In summary the rejections constitute clear error. By virtue of dependency the rejection of claims 13-17, 19, 41-51 and 53-55 are also improper and must be withdrawn because those rejections also constitute clear error.

Claims 18 and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu in view of U.S. Patent No. 5,873,028 of Nakano et al. (“Nakano”). The Office Action took the position that Vembu discloses all of the features of the claims except “the predetermined step is 1 dB” and “the predetermined amount for increasing the transmission power is 1 or 2 dB.” The Office Action cited Nakano to remedy these deficiencies of Vembu. This rejection constitutes clear error and must be withdrawn.

Vembu is discussed above. Nakano generally relates to a transmission power control apparatus and method in a mobile communication system. Nakano describes suppressing the transmission power to an absolute necessary minimum level and increasing subscriber capacity by reducing an amount of interference.

Claims 18 and 20 are dependent upon claim 12 and contains all of the limitations thereof. As discussed above, the teachings of Vembu fails to disclose or suggest all of the elements of claim 12. In addition, Nakano fails to cure the deficiencies in Vembu as Nakano also fails to disclose or suggest "a pseudo error is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur." Thus, the combination of Vembu and Nakano fails to disclose or suggest all of the elements of claims 18 and 20. Furthermore, claims 18 and 20 should be allowed for at least their dependence upon claim 12, and for the specific limitations recited therein.

Claims 21, 22, 25, 26, 39 and 40 were rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu in view of U.S. Patent No. 5,878,329 of Mallinckrodt ("Mallinckrodt"). The Office Action took the position that Vembu discloses all the features of the claims, except those related to forward error correction. The Office Action cited Mallinckrodt to remedy the deficiencies of Vembu with respect to the features related to forward error correction. This rejection constitutes clear error. Vembu is discussed above. Mallinckrodt generally relates to power control of an integrated cellular communications system. Mallinckrodt describes the power controlled by monitoring the bit error rate and the signal-to-noise ratio. Mallinckrodt describes controlling the power output levels of transmitters to a minimum necessary for satisfactory communications. Each transmission includes a code representative of the transmitter output level.

Claims 21, 22, 25, 26, 39 and 40 are dependent on independent claim 12, 24 and 38 and contain all of the limitations thereof. As discussed above, the teachings of Vembu fail to disclose or suggest all of the elements of claims 12, 24 and 38. In addition, Mallinckrodt fails to cure the deficiencies in Vembu as Mallinckrodt also fails to disclose or suggest "a pseudo error is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur." Thus, the combination of Vembu and Mallinckrodt fails to disclose or suggest all of the elements of claims 21, 22, 25, 26, 39 and 40. Furthermore, claims 21, 22, 25, 26, 39 and 40 should be allowed for at least their dependence upon claims 12, 24 and 38, and for the specific limitations recited therein.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu in view of (EP 0 847 146 A2) of Endo ("Endo"). The Office Action took the position that Vembu discloses all the features of the claims, except those related to increasing transmission power to a maximum. The Office Action cited Endo to remedy the deficiencies of Vembu with respect to those features. The rejection constitutes clear error and must be withdrawn.

As discussed in previous responses, Endo relates to a transmission power control apparatus for a mobile communication system. Endo describes providing a reverse channel error rate judgment section in a radio base station for judging a communication quality of the reverse channel by a detected reverse channel frame error rate. Claim 23 is dependent upon claim 12 and contains all of the limitations thereof. As discussed above, the teachings of Vembu fail to disclose or suggest all of the elements of claim 12. In addition, Endo fails to cure the deficiencies in Vembu as Endo also fails to disclose or suggest "a pseudo error is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur." Thus, the combination of Vembu and Endo fails to disclose or suggest all of the elements of claim 23. Furthermore, claim 23 should be allowed for at least its dependence upon claim 12, and for the specific limitations recited therein.

Claim 35 was rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu in view of U.S. Patent No. 5,822,318 of Tiedemann ("Tiedemann"). The Office Action took the position

that Vembu discloses all of the features of claim 35 except "a first output for outputting a corrected bit stream, wherein the corrected bit stream is obtained by removing a redundancy from a received bit stream; and a second output for outputting an error signal indicating corrections made by the apparatus to obtain the corrected bit stream." The Office Action cited Tiedemann, and specifically column 6, lines 59-61, column 7, lines 7-9, 23-29, and 40-54, column 5, lines 35-39, and Figure 3 as disclosing these features, to remedy these deficiencies of Vembu. The rejection contains clear error and must be withdrawn.

Vembu is discussed above. Tiedemann generally relates to a method and apparatus for controlling power in a variable rate communication system. Tiedemann describes providing for a closed loop power control method. A first remote station controls the transmission power of a second remote station by transmitting a rate dependent power control signal to the second remote communication station. Claim 35 is dependent upon claim 12 and contains all of the limitations thereof. As discussed above, the teachings of Vembu fail to disclose or suggest all of the elements of claim 12. In addition, Endo fails to cure the deficiencies in Vembu as Endo also fails to disclose or suggest "a pseudo error is defined as an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur." Thus, the combination of Vembu and Endo fails to disclose or suggest all of the elements of claim 35. Furthermore, claim 35 should be allowed for at least its dependence upon claim 12, and for the specific limitations recited therein.

For the reasons explained above it is respectfully submitted that each of the pending claims recites subject matter that is neither disclosed nor suggested in the cited art. It is, therefore, respectfully requested that all of claims 12-30 and 33-55 be allowed, and that this application be passed to issue. Reconsideration and withdrawal of the rejections, in view of the clear errors in the Office Action, is respectfully requested. In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a Notice of Appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start; margin-top: 20px;"><div style="width: 45%;"><p>I am the</p><p><input type="checkbox"/> Applicant/Inventor.</p><p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96)</p><p><input checked="" type="checkbox"/> Attorney or agent of record. Registration No. <u>58,823</u></p><p><input type="checkbox"/> Attorney or agent acting under 37 CFR 1.34. Registration Number if acting under 37 CFR 1.34 _____</p></div><div style="width: 50%; text-align: center;"><div style="margin-bottom: 20px;"><p>_____ Signature</p></div><div><p><u>Kamran Emdadi</u> _____ Typed or printed name</p><p><u>703-720.7822</u> _____ Telephone number</p><p><u>October 23, 2008</u> _____ Date</p></div></div></div> <p>NOTE: Signatures of all of the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p> <p><input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.</p>		

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